

**Agenda for Week of: November 22, 2010**

**Classroom Character Theme: \_\_\_\_\_**

**Focus Questions**

- 1) Why do things sink or float?
- 2) How can we predict whether something will sink or float?



Date	Objectives	Vocabulary – See textbook Chapter 2	Homework
Monday 11/22	Describe why something sinks or floats and define density mathematically.	<b>Density</b>  Review from last week: Matter Atom Element Molecule Compound Pure substance	-Read Chapter 2: pages 54 & 55  -p. 54 "Practice" problems 1-3 (in the green box) <b>AND</b> -p. 58 #5, 6  -Begin working on the review sheet (below)
Tues, 11/23	Review density practice problems	Homogeneous mixture Heterogeneous mixture Physical properties	Finish Review Sheet and prepare questions to ask
Weds, 11/24	<b>Test on Chapter 2</b>	Chemical properties Reactivity Physical change Chemical change	Complete the Empower3000 article emailed from me.  Have a Happy Thanksgiving!

**ANNOUNCEMENTS & REMINDERS**

- 1) **Calculator:** Remember to bring your to class every day!
- 2) **Entry to class:** I expect you to enter class *quietly* and immediately begin working on the Preclass.
- 3) **Binder:** Bring it to class **every day**. You will have a weekly Binder Check Pop-quiz.

**Study Tips for Chapter 2 Test (Also see pages 72-72 in the text!!)**

Part I: Define matter and explain the difference between an element, molecule and compound.

- 1) Matter has \_\_\_\_\_ and take up \_\_\_\_\_
- 2) List two things that are NOT matter: \_\_\_\_\_ and \_\_\_\_\_
- 3) Elements, like all matter, are made of tiny building-blocks called \_\_\_\_\_.
- 4) Compounds are molecules made of \_\_\_\_\_ or more different elements that are chemically \_\_\_\_\_.
- 5) The compound indigo has this formula:  $C_{16}H_{10}N_2O_2$ .
  - a. How many different elements make up 1 molecule of indigo? \_\_\_\_\_
  - b. How many atoms (total) are there in 1 molecule of indigo? \_\_\_\_\_
  - c. Which element has the most atoms in 1 molecule of indigo? \_\_\_\_\_

Part II: Classify matter as either an element or a mixture

- 6) Pure substances can be either \_\_\_\_\_ or \_\_\_\_\_
- 7) Mixtures can be either \_\_\_\_\_ or \_\_\_\_\_
- 8) List at least three examples of each:

Elements	Compounds	Homogeneous Mixtures	Heterogeneous Mixtures
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Part III: Identify properties as either "Physical" or "Chemical"9) Circle the Physical Changes and underline the chemical properties in the paragraph below:

Water is an amazing substance. The  $\text{H}_2\text{O}$  molecule is not magnetic, but it has a dipole moment that causes many of its cool properties. Water does not catch fire, but it boils when heated to  $100^\circ\text{C}$  and freezes when cooled to  $0^\circ\text{C}$ . At room temperature, water is a clear liquid that takes the shape of its container. It has a density of  $1\text{ g/cm}^3$  and does not compress. Many things dissolve in water, but it does not react with vinegar, bleach, or oxygen.

Part IV: Identify changes as either "Physical" or "Chemical"

10) List five physical changes

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List four chemical changes

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## Part V: Calculate density and predict whether items will sink or float

11) Density is a \_\_\_\_\_ property of matter that describes the ratio of \_\_\_\_\_ to \_\_\_\_\_. The **density of water** is: \_\_\_\_\_

Density = \_\_\_\_\_

12) In a mixture, denser objects will \_\_\_\_\_, while less dense objects will \_\_\_\_\_ (*fill in "float" or "sink"*).

Part I: Solve the following problems for density (D) using the formula ( $D = M/V$ ). Next, circle whether it will sink or float in water. **\*\*Remember: the density of water is  $1\text{ g/cm}^3$ \*\***

1.  $M = 10\text{ g}$       sink or float in water  
 $V = 6\text{ cm}^3$

3.  $M = 14\text{ g}$       sink or float in water?  
 $V = 5\text{ cm}^3$

2.  $M = 2\text{ g}$       sink or float in water?  
 $V = 22\text{ cm}^3$

4.  $M = 16\text{ g}$       sink or float in water?  
 $V = 4.3\text{ cm}^3$

Part II: Solve the following problems for mass (M) using the formula ( $M = \text{_____} \times \text{_____}$ ).

5.  $D = 3.5\text{ g/cm}^3$   
 $V = 2\text{ cm}^3$

7.  $D = 0.5\text{ g/cm}^3$   
 $V = 6\text{ cm}^3$

Part III: Solve the following problems for volume (V) using the formula ( $V = \text{_____} / \text{_____}$ ).

9.  $M = 12\text{ g}$   
 $D = 3\text{ g/cm}^3$

11.  $M = 5\text{ g}$   
 $D = 0.5\text{ g/cm}^3$